ctbuh.org/papers

Title:	The Post-Miesian Office Tower and the Global Issue of Its Interpretation
Author:	Giorgio Marfella, University of Melbourne
Subjects:	Architectural/Design History, Theory & Criticism Urban Design
Keywords:	Development Form Height Historic Context Office Urban Planning
Publication Date:	2018
Original Publication:	International Journal of High-Rise Buildings Volume 7 Number 2
Paper Type:	<ol> <li>Book chapter/Part chapter</li> <li>Journal paper</li> <li>Conference proceeding</li> <li>Unpublished conference paper</li> <li>Magazine article</li> <li>Unpublished</li> </ol>

 $\ensuremath{\textcircled{\sc c}}$  Council on Tall Buildings and Urban Habitat / Giorgio Marfella

# The Post-Miesian Office Tower and the Global Issue of Its Interpretation

Giorgio Marfella<sup>†</sup>

Faculty of Architecture, Building and Planning, University of Melbourne, Australia

#### Abstract

The skylines of many cities worldwide are still defined by the dominant and ubiquitous office blocks of the twentieth century. While there is consensus stating that future tall building typologies should depart substantially from these past models, the inheritance of large and obsolete tall office building stocks presents a problem of global significance. Too old for present corporate models, but too new for gaining public historical importance, the twentieth-century office tower is a typology under threat of extinction. However, the need for a culturally informed strategy of preservation for that generation of tall buildings is seldom advocated. Drawing evidence from the case of Melbourne, Australia, this article presents a methodological pathway to overcome pitfalls of memory and interpretation, which commonly prevent an unbiased assessment of the value and urban contribution of late-twentieth-century skyscrapers.

Keywords: Architectural/Design, History, Theory, Criticism, Urban design

# 1. Introduction

Facing the challenges of planetary emergencies, such as global population growth and climate change, any discussion about modern tall buildings can hardly escape from dealing with questions of built form. A sense of eagerness to tackle the issue transpires from research, debate, and projects presented over the last decade in the international forum of the Council on Tall Buildings and Urban Habitat (CTBUH). In that forum, a range of critiques that question the state of the international high-rise has emerged recently, targeting matters of architectural and urban design on two fronts.

The first aspect that is contested about the present is an excess of architectural formalism. Formal extravagance is criticized when applied as aesthetic gimmickry, but it is not seen as a problem *per se*, when justified by objective inputs of performance-based or climate-responsive design (Wood et al., 2007). Formal excess may ascribe in turn to another kind of excess, which is that of the iconic aspirations of contemporary architecture in the face of capitalist globalization (Sklair, 2006). In the specific case of tall buildings, such aspirations do not always lead to genuine iconic success. Towers are sinuously twisted, raked, cantilevered, highly-adorned or atypically shaped, which suggests that "anything is possible" in terms of the tall built form (Poon and Joseph, 2012). Such "extraordinary" towers continue to proliferate worldwide, becoming more

<sup>†</sup>Corresponding author: Giorgio Marfella

Tel: +61-3-9035-3127; Fax: +

E-mail: giorgio.marfella@unimelb.edu.au

the norm than the exception.

The second form of criticism is raised by the advocates of an eco-urban rethink of the skyscraper and targets the survival of an older typology. Disparagement, in this case, derives from an apparent inability to set aside one of the most desecrated urban types in architectural history: the Modernist "box", "glass box" or "black glass box" skyscraper (Oldfield, Trabucco and Wood, 2009; Becker and Chen, 2015; CTBUH, 2017). This position advocates for a "rethink" - if not an overhaul - of the "design principles" of the global typology of skyscrapers (Wood, 2015). The premise is that too much tall building production seems anchored to an unsustainable idea of modern origin. The anachronism in question is the "Miesian" and/or "Post-Miesian" prismatic tower. It is alleged that this typology lacked concern for issues of energy efficiency and it is thus incompatible with the pressing ecological agenda of the twenty-first century (Buchanan, 2006).

Between these two poles, it is not an easy task to select design strategies for tall buildings that are more responsive to the needs of people and climatic conditions worldwide. Such difficulty may originate from the fact that tall buildings cannot be reconciled easily with localisms. Tall buildings are a global type of built form. They are governed by practical economic aims, like creating multinational corporate appeal (Čamprag, 2015), or meeting the advertising agenda of one building among many others that compete in the same marketplace (Dovey, 1999).

Nevertheless, the impact that critiques of architecture can exercise on tall built form – and vice versa – should not be underestimated. Without challenging the benefit and goodwill of these critiques, this paper proposes to engage



Figure 1. The skyline of Melbourne, Australia.

the inheritance of Modern architecture from a different angle. A "typological critique" is followed in retrospective, in contrast to a merely formal critique focused on the present (Tafuri, 1980), with the scope of assessing opportunities for a broad re-evaluation of a significant portion of the past building stock that survives in many cities worldwide. The argument proposed is that the international family of skyscrapers of the second half of the 1900s - in other words, the so-called Miesian or Post-Miesian office tower - is historically misunderstood, particularly when misrepresented under the label of the international "glass box" - or in other words, a building typology that was utterly indifferent to local context and environmental design inputs. Without denying alignment to some transnational canons of architecture, tall buildings of the same period can still be a valuable and integrated part of their urban habitats. Moreover, they should be reassessed for their potential to be welcomed as a future form of built heritage, which like other Modern typologies, may be simply misunderstood for lack of unbiased historical enquiry (Goad, 2013; ICOMOS, 2014; Panchaseelan et al, 2018). A complete understanding of these buildings does not benefit from pejorative assumptions stating a priori that they are incompatible with the present because of lack of contextualism and ignorance of building performance requirements. In support of this argument, evidence from the Australian city of Melbourne shows that a large stock of prismatic office towers, built from the 1950s until the early 1990s, is far from being the culprit and template of reference of present tall building shortcomings. Melbourne's Post-Miesian skyscrapers are in neat contrast with developments that have been thriving in the same Australian city in more recent times.

# 2. Melbourne's Modern Tall Buildings: What, Where, and When?

Melbourne's tall buildings are located mainly in the

Central Business District (CBD), and above all in the inner core of that district, the so-called "Hoddle Grid".<sup>1</sup> Other tall building clusters, which include residential developments, have grown outside that core since the 1950s, in St Kilda Road, Southbank and, more recently, also in the Docklands. But traditionally the great bulk of the tall buildings of the city was and continues to be within the CBD/Hoddle Grid area.

In retrospective, it is apparent that office buildings were the dominant "tall" building typology of the city. From the end of World War II to 2015, there were at least 180 office buildings of 10 stories' or greater height erected in the Hoddle Grid. These buildings are a sample that reasonably represents office building activity in the city over the last six decades. A time series of the net lettable area produced yearly by these buildings is shown in Fig. 2 and allows making three considerations:

Multi-story office buildings were built in two large cycles: the first between the mid-1950s and the mid-1990s; the second between 2002 and 2009.

Despite highs and lows and growing peaks of intensity (notable in 1958, 1961, 1967-69, 1972-73 and 1990-91) office building activity endured with continuity between the mid-1950s and the mid-1990s.

There is clear discontinuity after a steep peak of activity in the early 1990s. Between 1995 and 2001, multi-story office building activity in Melbourne's Hoddle Grid was at minimal historic level, with no activity recorded by the sample.

In summary, the second cycle, which occurred between 2002 and 2014, is historically disconnected from the previous century by about a decade of inactivity. By virtue of this, a retrospective analysis of Modern buildings can be limited chronologically from the mid-1950s to the mid-1990s.

Within this period, a breakdown into smaller intervals is also appropriate. While a direct statistical correlation between historical episodes and cyclic activity cannot be

<sup>&</sup>lt;sup>1</sup>The central city of Melbourne is formed by a layout of rectangular blocks defined by a grid of main streets and secondary "Little" streets that run in the east-west direction. The orthogonal structure of the CBD corresponds largely with the 1836 colonial settlement of Robert Russell and Robert Hoddle and it is known also as the "Hoddle Grid". Overall, the Hoddle Grid consists of sixty-four blocks defined by a pattern of main streets 99 feet wide and secondary streets 33 feet wide. Each block, as originally settled, measures 600 feet by 315 feet and 6 inches deep (approximately 183 by 96 meters).

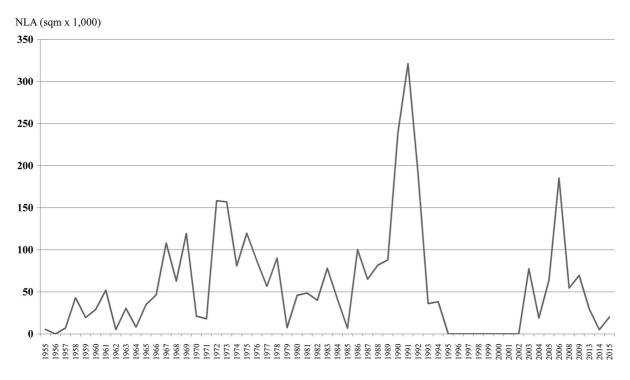


Figure 2. Time series of net lettable area produced by 180 multi-story buildings in Melbourne.

assumed, several events suggest that a further chronological subdivision in three stages (1955-1965, 1965-1980 and 1980-1995) is fitting for Melbourne.

• First stage (1955-1965): In 1954, the City of Melbourne started working on a draft of the Metropolitan Planning Scheme, which defined zoning in the CBD. The Summer Olympics were held in Melbourne in 1956. In 1964, the City of Melbourne issued the first comprehensive set of planning regulations with plot ratios, which affected built-form and density control in the CBD. Modern office building activity started in the city in 1955, peaking in 1961 and slowing down significantly between 1962 and 1964.

• Second stage (1965-1980): In 1966, Australia, changed from Imperial to decimal systems in currency (from the pound to the dollar) and in measurement (from feet and inches to meters, albeit at a slower pace than expected, with conversion lasting until 1981). In 1973, the OPEC oil crisis affected the Australian Stock Exchange in concomitance with an escalation of inflation, a credit squeeze and the bankruptcy of property companies. In 1978, the Australian National Trust published the Collins Street Report, an influential study that fostered heritage-awareness in the central city. Multi-story office building activity in the city peaked in 1967, 1969, and 1972-73, almost coming to a halt in 1979.

• Third stage (1980-1995): In 1982, the authority responsible for planning approvals of large city projects changed hands from the local government of the City of Melbourne to the office of the Planning Minister of the

State Government of Victoria. In 1983, the Victorian Building Regulations introduced a new regulatory system focused on performance-based design, which superseded the prescriptive Uniform Building Regulations introduced in 1945. In 1991-92, a CBD property crash hit banks and the Australian Stock Exchange; Australia subsequently entered into a period of recession and economic stagnation.; multistory office building activity peaked in 1983 and in 1992; tall building activity stopped in the city for almost a decade after 1994. In 1996 the performance-based Building Code of Australia became effective as nationwide legislation.

These criteria of sampling periodization set the historical and geographical coordinates of office building activity in Melbourne. It remains to be seen, however, what portion of that activity can be attributed to "tall" buildings. Borrowing from the CTBUH definition of "tallness" as height relative to context (CTBUH, 2011), a sample within the sample can be selected using a building height criterion that varies in time. Four height thresholds, which increase over time with 20-meter increments, are used to select buildings that presented characteristics of tallness in relation to their historical context. These thresholds still fit with the periodization described, but respond more closely to peaks of office building activity. A further subdivision is therefore considered to fine-tune the sample within the period 1965-80, using the year of completion of BHP House in 1972 as a point of transition (See Figs. 3 and 4).

Based on these filtering criteria, the initial sample of

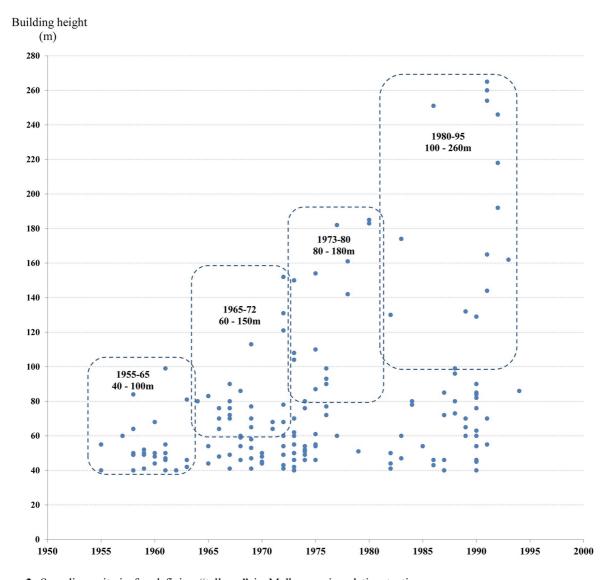


Figure 3. Sampling criteria for defining "tallness" in Melbourne in relation to time.

180 multi-story office buildings can be reduced to that of 76 "tall" office buildings built between 1955 and 1995. This selection allows defining coordinates in terms of "what", "where" and "when" about the historical Modern tall building stock of a city like Melbourne: e.g., office buildings, in the Hoddle Grid, between 1955 and 1995. The formal characteristics of this stock, remain to be determined, however, as does an explanation of "how," and in part "why" some forms may have prevailed more than others over time.<sup>2</sup>

## 3. Formal Analysis

At an elementary level, architectural built form, can be described by some elementary typological characters (Rossi, 1968). These essential characters relate to: (1) the site or location of a building; (2) the shape or configuration of the envelope, in plan and section; and (3) the presence and distribution of sub-parts within that envelope. For the specific family of Modern tall office buildings, the formal characters can be summarized as: (1) the relationship that the building establishes with the site, including orienta-

<sup>&</sup>lt;sup>2</sup>The analysis is extracted from a broader study (Marfella, 2017). Focus is on the relationship between the form of a sample of buildings – with the word "form" meant here in a reductive sense, as a shape, volume or configuration - and another two factors of influence. These two factors are (1) the evolution of planning and building controls in the CBD of Melbourne and (2) changes that over time affected the scope for which the buildings were erected in the same place. The analysis would benefit from the inclusion of sources of influence. Technical influences on building mass, fabric, and typology, as well as those of international stimuli and knowledge transfer in culture and design, are not secondary. These factors are indeed important, but deserve an extensive discussion that cannot be dealt with here.

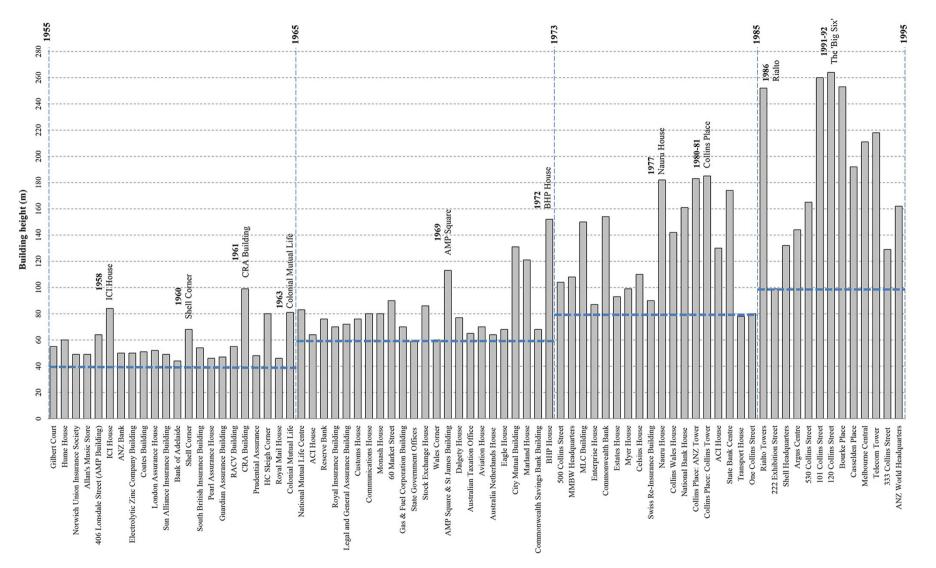


Figure 4. Bar chart of building height of Melbourne tall office buildings (1955-95)

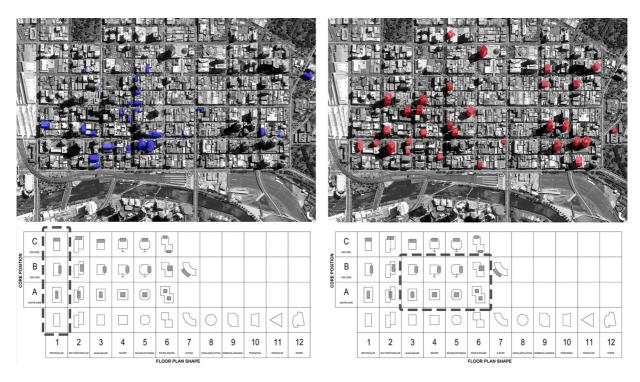


Figure 5. Comparison and location of historically dominant typologies in Melbourne.

tion, scale and compliance with urban design regulations; (2) the shape and size of the floor plate and – if any exist – the geometrical variations of the floor shape along the height of the building; (3) the location of service spaces, in other words, the service core, and the position of these with respect to the floor plate (Yeang, 2000).

Historically, tall office buildings have floor plates that are simply stacked on top of one another, with hardly any geometrical variation from floor to floor. Therefore, a simple two-dimensional arrangement, which defines the shape of the floor plan and its position in relation to the service core, and the number of floors above ground - or building height - are generally suitable to analyze the overall built form of the building. In some instances, geometrical modifications of that elemental form are introduced progressively with height, but these variations are secondary. Given the large scale of many tall office buildings, these changes often do not alter the basic perception of being a monolithic volume. Taking this level of approximation as valid, and observing the skylines and aerial imagery of inner districts in Australian capital cities, it is therefore possible to map a matrix that considers elementary floor plan shapes with three basic core positions (See Fig. 5).

In a context like Australia, the formal possibilities of city

office buildings are *de facto* limited to some recurring Euclidian patterns. Considering the case of a singular city, these patterns reduce even further. In Melbourne, for example, only a few configurations are dominant. Among buildings completed in the city during the twentieth century, five out of the 10 tallest office buildings of the city in the period are towers with square floor plan and center core. The other five tallest office buildings in the same period are not exactly square, but close to it. Two are quasisquare – or squarish – in plan, with a center core; one of them is octagonal with a center core, and the other two consist of two center core square towers joined side-byside to form a figure-eight-shaped plan. Square-plan office towers, or squarish types, prevail in Melbourne, particularly among the tallest towers.<sup>3</sup>

Breaking down the net lettable area (NLA) produced by these buildings between 1955 and 1995, there were two typologies that were dominant in Melbourne. The first was the side-core slab, which was embodied locally by the classic free-standing "box-like" projects such as ICI House and the Colonial Mutual Life Building. The second dominant typology was a square or "squarish" tower, which was embodied in the city by projects like AMP Square, BHP House, ANZ Tower at Collins Place, and several

<sup>&</sup>lt;sup>3</sup>In chronological order of completion, AMP Square (113 meters high, completed in 1969), BHP House (152 meters, 1972), Nauru House (182 meters, 1977), Collins Place (185 meters, 1981), Rialto (251 meters, 1986) and 120 Collins Street (265 meters, 1991), have raced to hold, for some period of time, the status of tallest building in the city. If the sample is extended to include buildings less than 100 meters tall, the rectangular type is also common. In fact, three buildings of this type, ICIANZ House (84 meters, 1958), CRA Building (99 meters, 1961) and Commonwealth Bank House (154 meters, 1975), can be added to the sequence of the historical tallest record holders in the city.

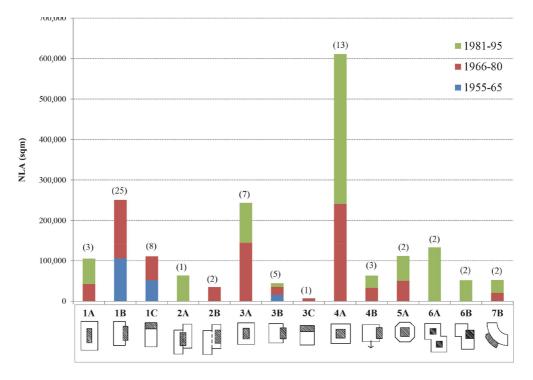


Figure 6. Bar chart of NLA produced by type and period of completion; type count indicated in parentheses.

skyscrapers completed in the early 1990s. Some of these are free-standing on a plaza, others are elevated on a podium (See Fig. 6).

## 4. Chronological Analysis

This brief formal analysis may seem to confirm the perception of Melbourne as an example of global homogeneity, dominated by the ubiquitous boxes of Modern origin (Wood, 2015). International influences notwithstanding, a chronological discussion based on the periodization proposed earlier can help to explain how these two typologies became dominant in the city, as a response to historical developments of urban control and land use within the inner city.

Using the three phases of development described earlier, the following is a brief historical account for each period of the prevalent models of development in the CBD, a "close-up" view of how these affected some parcels in a prestigious city address in the Hoddle Grid (corner of Bourke and William Streets, also known as CBW), and a summary of the relevant regulatory regime in place.

#### 4.1. 1955-65

Between 1955 and 1965, Melbourne changed due to the rising of an innovative building typology: the Americaninspired Modern office building. During this first phase, a relatively modest approach of redevelopment was prevalent, affecting parcels of land that did not exceed 10,000 square feet (929 square meters). The intensity of use of the land, as indicated by the total amount of net lettable area, was, on average, on the order of maximum seven times the area of the site. (See Fig. 7).

For the greater part, the construction of these buildings was prompted by corporations willing to build new prestige headquarters for owner occupation, although purely speculative projects also took place. Among these corporations, insurance companies played the leading role, as direct occupiers of the most space in their own buildings, but also as speculators that entered into long-term rental agreements with other corporations.

The regulatory context in which this first wave of tall buildings surged was that of a prescriptive State-wide building code, the Uniform Building Regulations of Victoria. In the absence of a comprehensive planning scheme, the UBR controlled built form in Melbourne with a building height limit of 132 feet (40 meters). The code, however, consented designers and owners to apply for modification of the provisions of the code, thus allowing projects to be built higher than the limit set by the regulations. Following procedures of approval that anticipated contemporary practice, negotiations on an *ad hoc* basis for large tall building projects prospered in this way until the mid-1960s in Melbourne (Marfella, 2018).

#### 4.2. 1965-80

Between 1965 and 1980, the skyline of Melbourne continued to change with a larger wave of multi-story office buildings. From the late 1960s, developments affected lands of larger size than in the past - on parcels larger than

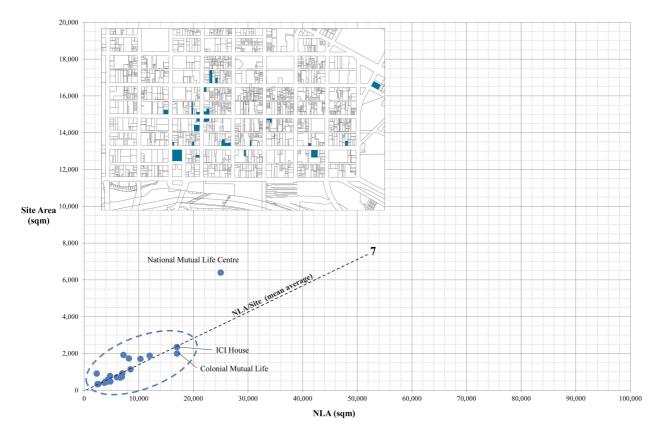


Figure 7. Scatter chart of site area vs. tall building NLA in CBD area (1955-65).

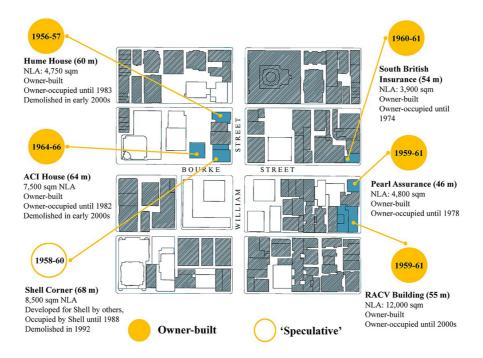


Figure 8. Tall building developments at Bourke and William Streets intersection (CBW), Melbourne (1955-65).

1,000 square meters - and often because of operations of consolidation that would, most frequently, range between 1,500 and 4,000 square meters (See Fig. 9).

The most notable buildings of the time continued to be financed by corporations eager to occupy newly-built, prestigious multi-story premises. Among these corpora-

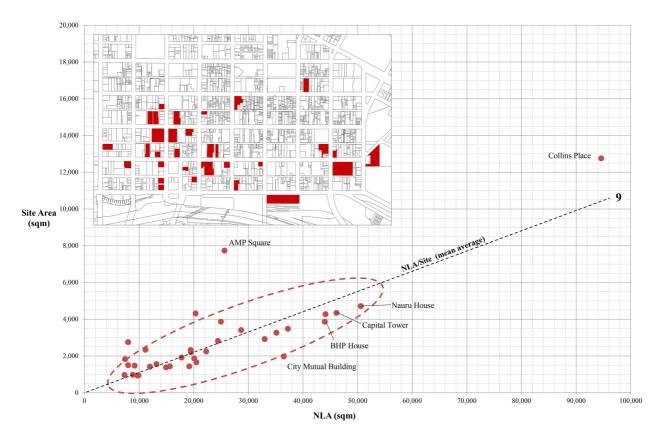


Figure 9. Scatter chart of site area vs. tall building NLA in CBD area (1965-80).

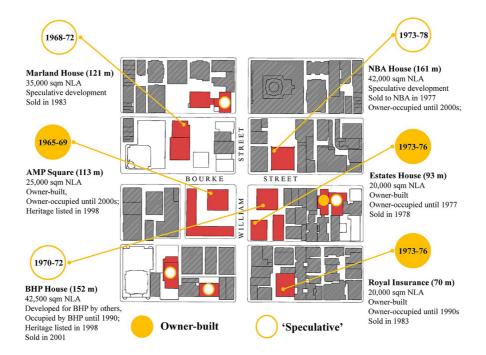


Figure 10. Tall building developments at CBW, Melbourne (1965-80).

tions, insurance companies maintained the largest share of owner-occupied initiative. Among others, banks, government and investment funds commissioned buildings for occupancy, but a growing share of activity was taken by projects initiated simply on a speculative basis. The use of the land intensified because of built-form controls

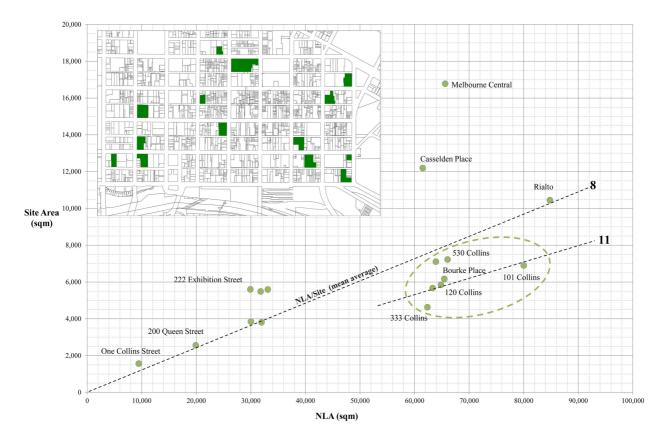


Figure 11. Scatter chart of site area vs. tall building NLA in CBD area (1980-95).

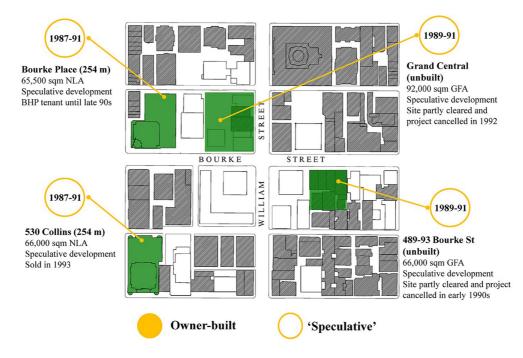


Figure 12. Tall building developments at CBW, Melbourne (1980-85).

and zoning regulations, introduced in the mid-1960s, that prescribed a plot ratio of up to 12 for the commercial zones of the grid located in close proximity to train stations. Based on the total amount of net lettable area produced, tall office buildings developed blocks of land with buildings far larger than in the past (See Fig. 10).

### 4.3. 1980-95

From the 1980s to the early 1990s, the Central Business District of Melbourne was transformed yet again by another generation of tall office buildings, the third since the end of World War II. During the 1980s, developments continued to affect larger plots than in the past because of extensive operations of property consolidation on major corner sites. Most frequently, the blocks of land developed with the skyscrapers ranged from 4,000 to 8,000 square meters. The use of the land continued to densify the Hoddle Grid, benefiting from zoning with base plot ratios of 6, which could be increased to 12 due to a bonus system controlled at the discretion of a centralized planning authority. For some larger projects, however, the effective use of the land increased further, due to the increase in net lettable area obtained with larger tower footprints and podiums with deeper office space (See Fig. 11).

By the mid-1980s, Melbourne had a new comprehensive system of planning, building and urban design controls. Governance for planning approvals shifted from the local City Council to the hands of the State Minister of Planning. A new state-wide building code was introduced for transitioning from the prescriptive model of the UBR to a new performance-based code. Post-Modern inspired urban design controls were implemented in the city, restraining individual buildings more than in the past. These controls promoted a volumetric reinstatement of the historic streetscapes that the city had annihilated, in part, with open space produced in the 1960s and the 1970s. These controls explicitly sought to control the aesthetics of the city's skyline, not only that of individual buildings. Controls affected volumes and surfaces, and considered the comfort of pedestrians from wind gusts. New controls nonetheless afforded a large level of discretion to planning authorities and their advisors to influence how the new landmark buildings of the city should be developed.

Most tall building activity of the period began for speculative purposes, prompted by a multitude of developers. An important share was taken also by superannuation funds. The city entered a stage of oversupply of office space. A considerable number of projects resulted from the vacation or replacement of smaller and older Modern buildings completed in the first phase. Some of these dynamics are visible in the cluster of towers at the corner of Bourke and William Streets, where several parcels were consolidated for larger developments planned (but not always completed) to replace office buildings of the post-WWII period (See Fig. 12).

Owner-occupied tall building projects almost disappeared entirely from the CBD in the 1980s, although they re-emerged to a minor extent in the early 1990s. Speculative private development played the leading role for the transformation of the city, but notable impetus was given

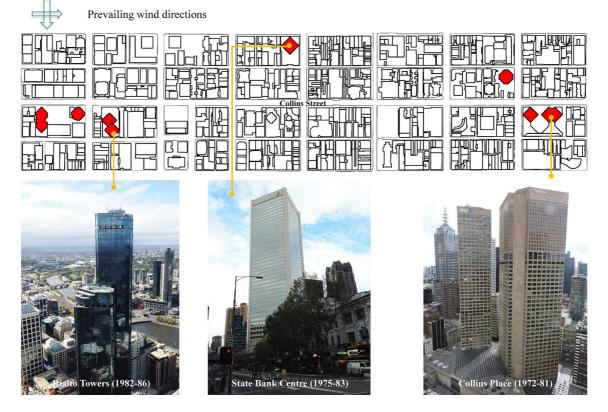


Figure 13. Collins Street, Melbourne; towers rotated at 45 degrees from street to minimize impact of prevailing winds.

also by block-wide redevelopments initiated on publiclyowned land, such as Melbourne Central and the redevelopment of the northeastern end of Lonsdale Street.

# 5. Discussion: A Glocal Typology

This historical *excursus* about the evolution of skyscrapers in Melbourne consents to make two considerations.

Firstly, it should be noted that Melbourne's past tall office buildings, despite being subject to international influences, were not exempted from having to respond to local inputs of urban planning and design control. The architectural models may have been of international origin, but they did not evolve locally in ways that were indifferent to context. A local response materialized in Melbourne, with the emergence of one building typology, which, despite being found in other urban contexts worldwide, fit Melbourne's orthogonal *forma urbis* more than any other type. The dominant type was the square-plan tower, which in Melbourne had also specific design parameters that could be summarized with a generic model of a 40-by-40-meter footprint (Marfella, 2010).

Square-plan towers prospered in Melbourne because they could provide all-round views, while retaining the ability to optimize the use of the land, the shape of the typical plan and the vision of skyscrapers in relation to main streets. Site orientation of these buildings could reinforce the orthogonality of the street patterns or, when needed, it could be rotated by 45 degrees from the main streets. In this way, orientation was set diagonally against prevailing winds, thus minimizing the environmental impact of winds for pedestrians on footpaths and in adjoining public open space. The square plan was in effect the antinomy of the classic American "box" of steel and glass of the 1960s, which in Melbourne prospered only briefly in the late 1950s. Center-core square towers, often concreteframed and solid-clad with precast panels, were perhaps more anonymous and uglier, but more environmentally

responsive – and historically relevant – as a local building type than would be described by a generic "glass box" label.

These towers, as an ensemble, were also the instrument with which a deliberate civic image of the city was built. From the mid-1960s to the 1980s, square towers in the Hoddle Grid were encouraged to be built on the elevated blocks of the western and eastern hill-ends of the grid, thus keeping a lower-rise corridor in the middle of the grid that preserved a visual link between the city and the monument of the Shrine of Remembrance along St. Kilda Road.

It would not be appropriate to define Melbourne's square skyscrapers as a capitalist "vernacular" response to the city grid, as tall buildings in other contexts have been described (Huxtable, 1982; Wills, 1995). The dominance of that specific typology should be more fittingly understood as a regional declination of an international model, rather than a global curse indifferent to local conditions. In other words, it is a "glocal," rather than global phenomenon (Robertson, 1995).

Secondly, the analysis of Melbourne's tall buildings of the second half of the twentieth century highlights how the models of the economic purposes – or in other words, the final causes – for which tall buildings were erected in the city changed radically in the span of four decades.

From the 1950s to 1990s, the prevailing economic motives behind tall buildings were practically inverted. A snapshot of tall building activity in the city from the mid-1950s until the mid-1960s shows that owner-occupancy driven by corporations willing to signal prestige, improve workforce productivity and centralize operations in the CBD was the prevailing reason for which tall buildings were erected. From the mid-1970s, and increasingly in the 1980s, tall office building production in the city shifted decidedly towards speculative purposes. In the second half of the 1980s, speculative real estate transactions and building activity became not only prevalent, but almost the exclusive finality for which high-rise developments in

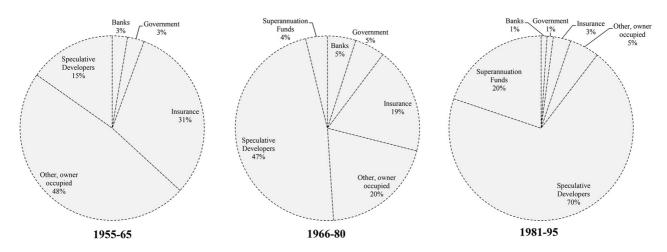


Figure 14. Melbourne tall office buildings, 1955-95; pie charts of NLA according to type of project owner/developer.



**Figure 15.** Contrast images of tall building developments in Melbourne; square office towers of the 20<sup>th</sup> Century (left) versus 21<sup>st</sup> Century apartment developments (right).

Melbourne were built (See Fig. 14).

This shift from owner-occupancy to a dominant level of speculation was reflected by a change of attitude towards risk that shortened the time-horizon of ownership. In the 1950s, and until the early 1970s, tall building construction was conceived as a long-term prestige-building enterprise. This attitude is confirmed by pace-setting agreements established on time frames that in some cases reached 40 or even 50 years-long leasing periods. This attitude towards long-term value-building was turned upside-down in the 1980s, when short-termed forms of investment occurred more often, and when property transactions recurred often even before projects were started or completed. Such were the prevailing conditions that influenced several large "landmark" projects of the Post-Modern generation, including some of the so-called "Big Six" projects of the time.<sup>4</sup>

# 6. Conclusion: From the Square Box to the S

The retrospective analysis and discussion about Melbourne's tall buildings presented in this paper consents to highlight some implications about contemporary models of tall building development. While the evidence presented here is limited to one urban context, it can be assumed that the case analyzed is generic enough to be considered, if not representative, at least analogous and eligible for comparison with other cities affected by significant historical tall building production in the second half of the twentieth century.

The case of Melbourne's past is globally significant, because it should induce one to reflect on some contrasts between the models of development of the past from those of the present, and reconsider if the Post-Miesian office tower should continue to be critically disparaged as the alleged source of present problems, rather than reevaluated globally in a historical sense. The drift from long-term-inspired owner-occupancy of the buildings typical of the canonic "International Style" phase of the 1950s and 1960s – to the Post-Modern speculative "big" towers of the 1980s is an eloquent explanation that preambles some elitist trends of private residential development that prevail today, at least in Australian cities and beyond (Willis, 2016), and certainly in Melbourne (Marfella, 2016). Consistent with what has been discussed so far, looking at the tall building activity in the Hoddle Grid at the beginning of the twenty-first century, it is apparent how the historical drift - shifting away from long-term and civic inspired tall buildings - described in this paper continues. From the innovative "corporate" owner-built "glass box" totems, conceived in defiance of prescriptive regulations during the 1950s, passing through speculative models that annihilated large corner blocks in the 1970s, and the Post-Modern oversupply - in compliance with local urban regulations and a civic vision of the Post-Modern phase - Melbourne's tall building history continues. Latest developments suggest that the drift has taken the city further ashore: the dominant skyscraper of the twenty-first century in Melbourne seems to have abandoned commitments to civic engagement, and surrendered entirely to speculative residential developments in hyper-dense clusters of urban planning laissez-faire.

#### Acknowledegments

The findings presented in this article are part of a research project supported by an Australian Government Re-

<sup>&</sup>lt;sup>4</sup>The "Big Six" are six different large office tower projects that were designed and built almost simultaneously in the boom of the late 1980s, leading to an oversupply of office space in the CBD: 101 Collins Street (1988-91), 120 Collins Street (1987-91), 333 Collins Street (1988-91), 530 Collins Street (1987-91), Bourke Place (1987-91) and Melbourne Central (1985-92).

search Training Program Scholarship. The author wishes to express gratitude to the leaders and colleagues of the organizing committee of the CTBUH 2017 Australia Conference, where this paper took first shape as an oral presentation, finding stimuli and support that allowed it to develop further into this article.

## References

- Ascher, K. and Uffer, S. (2016). "Tall versus old? The role of historic preservation in the context of rapid urban growth." Proc., Cities to Megacities: Shaping Dense Vertical Urbanism, CTBUH Conference, Shenzhen, Guangzhou and Hong Kong, China, 107-114.
- Becker, L. and Chen, J. (2015). "A tale of towers and cities: a contextual approach to vertical urbanism." In: A. Wood and B. Mandel, editors, *The Middle East: a selection of written works on iconic towers and global place-making*, Chicago: CTBUH, 126-137.
- Buchanan, P. (2007). "The tower: an anachronism awaiting rebirth." *Harvard Design Magazine*, 26(Spring/Summer), 1-5.
- Čamprag, N. (2015). "Frankfurt and Rotterdam: skylines as embodiment of a global city." CTBUH Journal, (I), 26-32.
- Cowan, H. J. (1997). "Should tall buildings be preserved as part of our heritage?" *Architectural Science Review*, 40(2): 41-42.
- CTBUH, Council on Tall Buildings and Urban Habitat (2011). Criteria for defining and measuring tall buildings. http:// www.ctbuh.org/HighRiseInfo/TallestDatabase/Criteria/tab id/446/language/en-GB/Default.aspx (Accessed 22 July 2016)
- CTBUH (2017). "Conference overview and synopsis." Proc. Connecting the City: People, Density and Infrastructure, CTBUH Conference, Sydney, Melbourne and Brisbane, Australia.
- Dovey, K. (1999). "Tall Storeys." In: Framing places: mediating power in built-form. London and New York: Routledge, 107-122.
- Georgiev, P. (1991) "The 'Big Six' Office Buildings." Architect Victoria, (August), 5-11.
- Goad, P. (2013). "Unloved, over-loved or just-misunderstood? Modern architecture: the problem child of heritage." *Historic Environment*, 25(1), 12-30.
- Goldberger, P. and Johnson, T. (2011). "Debating Tall: Are the Twin Towers Missed?" *CTBUH Journal*, (3), 5.
- Huxtable, A.L. (1982). *The tall building artistically reconsidered: the search for a skyscraper style*. Berkeley – Los Angeles: University of California Press.
- ICOMOS, International Scientific Committee on Twentieth Century Heritage (2014). *Approaches for the Conservation* of Twentieth-Century Architectural Heritage: Madrid Document – 2014. ICOMOS.

- Panchaseelan, S., Barron, S., Leslie, T. and Orlando, P. (2018). "Reconstruction as research: digital modeling of key postwar skyscrapers." *CTBUH Journal*, (1), 20-24.
- Marfella, G. (2010). "Five speculative points for a building type." Proc., Project Management(s), 34<sup>th</sup> annual conference of the Australasian Universities Building Education Association, Melbourne, Australia.
- Marfella, G (2016). "The future of skyscrapers in Melbourne: from hyper-density to the uplift principle." Proc., Cities to Megacities: Shaping Dense Vertical Urbanism, CTBUH International Conference, Shenzhen, Guangzhou and Hong Kong, China.
- Marfella, G. (2017). Inside the square box: skyscrapers and techno-economic developments in Melbourne CBD (1955-1995). PhD thesis, University of Melbourne, Faculty of Architecture, Building and Planning (https://minervaaccess.unimelb.edu.au/handle/11343/194168).
- Marfella, G. (2018). "ICI House, tall buildings and the birth of discretionary building control in Melbourne, 1945-65." *Provenance: Journal of the Public Record Office Victoria*, (16) [forthcoming].
- Neustupny, M. (2006). Curtain Call: Melbourne"s Mid-Century Curtain Walls. Melbourne: RMIT Publishing Press.
- Oldfield, P., Trabucco, D. and Wood, A. (2009). "Five energy generations of tall buildings: a historical analysis of energy consumption in high-rise buildings." *Journal of Architecture*, 14(5): 591-613.
- Poon, D. and Joseph, L. (2012). "Anything goes?". International Journal of High-Rise Buildings, 1(1), 61-72.
- Robertson, R. (1995). "Glocalization: Time-Space and Homogeneity-Heterogeneity." In: M. Featherstone, M. Lash and R. Robertson, editors, *Global Modernities*. Thousand Oaks, CA: Sage.
- Rossi, A. (1980). *L'architettura della città*. Milano: Città Studi.
- Short, M.J. (2012). Planning for tall buildings. Abingdon, Oxford - New York: Routledge.
- Sklair, L. (2006). "Iconic architecture and capitalist globalization." *City*, 10(1): 21-47.
- Tafuri, M. (1980). *Theories and history of Architecture*. London – New York: Granada.
- Taylor, J. and Stewart, S. (1994). Post World War II Multistoried Office Buildings in Australia: 1945-1977. Canberra: Australian Heritage Commission.
- Willis, C. (1995). Form follows finance: skyscrapers and skylines in New York and Chicago. New York: Princeton Architectural Press.
- Willis, C. (2014). "The logic of luxury: New York's new super-slender towers." Proc., Future Cities: Towards Sustainable Vertical Urbanism, CTBUH International Conference, Shanghai, China.
- Yeang, K. (2000). Service Cores. Chichester: Wiley Academy.